Small Business Proves that Great Things Come in Small Packages:
"Los Alamos National Laboratory Will Save $2.5 Million with UltraTech International, Inc., Innovation"

Los Alamos National Laboratory
Small Business Office Press Release
Written by Laura Lovato

A small technical company out of Florida has proven that their work force may be small, but their ideas are huge. UltraTech International, Inc., has developed a neutron shield that will help the Los Alamos National Laboratory save nearly $2.5 million over the next 3 years. The innovation will also help the Laboratory manage radioactive waste.

Mike Pearson of the Off-Site Source Recovery (OSR) Project, from the Risk Reduction and Environmental Stewardship (RRES) Division, reviewed the capabilities of UltraTech International, Inc., during a 2001 conference sponsored by the Laboratory's Materials Management Department (BUS-4). The OSR Project staff was struggling to find a company that would develop a neutron shield made of polyethylene. The existing prototype was made of a polyester resin and cost about $4,000 per unit; however, the polyethylene would be more reliable and less costly to produce if the technology were feasible.

Neutron shields are a component of specialized waste containers, 55-gallon drums, that are used to store and dispose of radioactive waste. Westinghouse Engineered Products Department, a major contractor of the Laboratory, currently produces the containers. UltraTech International, Inc., is now a subcontractor of Westinghouse, supplying the neutron shields used in the containers.


Neutron Shield: Used in 55-gallon drum

The work with UltraTech International, Inc., was initiated during the design, development, and testing of a one-piece cast, polyethylene shield. Initial work involved attempts to cast in a single large piece, an effort that other contractors were not interested in pursuing. During this effort, Mark Shaw of UltraTech International, Inc., proposed an alternate design that was developed with the concurrence of Packaging Technology, Inc., the design contractor.

Although the neutron shield is just a single component of the container, it does play a crucial role in the OSR Project efforts to meet project requirements, mandated by the Department of Energy (DOE). "The availability and use of this container plays a critical role in our ability to manage the materials we have been directed to recover," said Pearson. "Development of this container, supported by the Waste Management Division at DOE Albuquerque, was a combined effort requiring the expertise and cooperation of several LANL organizations. Key players were Jerry McAlpin, OSR Project, Frank Montoya, formerly with the OSR Project, and Dale Carmichael of BUS-5. Brad Day, of DOE Carlsbad, offered technical insight and regulatory direction in the development as well."

UltraTech International, Inc., has not only helped the Laboratory but also themselves by proving to DOE that they are capable of finding new ways to contain radioactive materials. The provider of environmental-containment and spill-response products is now working on other pertinent projects with DOE. Two of the new projects include the following:

- **The Macroencapsulation Project** for the Los Alamos National Laboratory. Macroencapsulation is used for the purpose of isolating waste from the disposal environment

in order to meet the Land Disposal Restriction treatment standards for debris-like waste. Macroencapsulation is currently available at facilities permitted by the U.S. Environmental Protection agency for the treatment of radioactively contaminated hazardous waste.

- **The Ultra-BagBuster Project** for DOE. The Ultra-BagBuster could provide a significant savings to the cleanup and disposal process at many DOE facilities by breaching inner layers of confinement inside of drums containing TRU waste destined for the Waste Isolation Pilot Plant Facility in Carlsbad. Breaching of an unfiltered, bagged waste will allow many drums to be shipped because it will eliminate the buildup of hydrogen gas within the inner bags and will allow drums that would have been over the wattage limit to fall within the shipping requirements for the waste.

"We may be small, but we are a very creative company and that helps us produce innovative, reliable, and inexpensive products," said Mark Shaw, Vice President of UltraTech International, Inc.

For more information on UltraTech International, Inc., please log onto the following webpages:

- http://SpillContainment.com
- http://www.Stormwater-Products.com
- http://www.RadWasteProducts.com
- http://www.FacilityProtection.com

You can also log onto http://osrp.lanl.gov for more information on the OSR project.

UltraTech International, Inc.: (Left to right) Larry Bierce, Vice President of Engineering, & Mark Shaw, Vice President of New Product Development.

OSR Project Team: (Left to right) Lee Leonard, Dale Carmichael, Shelly Leonard, Mike Lindstrom, Jerry McAlpin, Cristy Abeyta, & Mike Pearson.

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Los Alamos enhances global security by ensuring the safety and reliability of the U.S. nuclear weapons stockpile, developing technical solutions to reduce the threat of weapons of mass destruction and solving problems related to energy, environment, infrastructure, health and national security concerns.

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